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REMARKS

Attached information sent to AFDRD by memo, subj: Information for Presentation to Dr. Killian, dtd 23 Oct 50.

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DD FORM 1 FEB 50 95 Replaces DA AGO Form 895, 1 Apr 48, and AFHQ Form 12, 10 Nov 47, which may be used.

16—48487-4 GPO ☆

[redacted]

SYSTEM 117L - [redacted]

1. FY 60 Funds: P-600 P-100 P-200

As in FY 59, it is anticipated WS-117L will be funded in toto by the ARPA. The ATSC presented a revised Development Plan for the system on 15 September 1958. This revision reflected the following costs:

P-100	$170,534,000
P-200	59,971,000
P-300	10,770,000
P-400	3,685,000
P-600	32,016,000
TOTAL for FY 60	$296,976,000

2. It is not known to what funding level ARPA will support the WS-117L in FY 60. The Development Plan as submitted on 15 September 1958 was approved by the ATSC, but ARPA approval has not been granted. If the total amount is made available, a satellite test firing program from Vandenberg AFB will be scheduled as follows:

	CY 58	CY 59	CY 60	CY 61
	D	JFMAMJJASOND	JFMAMJJASOND	JFMA
THOR Boosted Program (Engineering Tests and Biomedical Recovery)	1	11122222221		
ATLAS Boosted Program Visual & Ferret Recon Development			1 1 111111	1111

In addition, the three tracking stations (in Ft Stevens, Oregon; Oshkosh, Iowa; and Grenier AFB, New Hampshire) will be equipped and operative. The Central Control and Intelligence Data Processing Building will also be constructed and equipped.

3. Milestones

1947: RAND Study indicated feasibility to perform reconnaissance from a satellite.

1950: The RAND vested satellite custody in the Air Force.

1953: Recommendation by RAND that ARS development be initiated.

27 Nov 1954: System Requirement No. 5 published.

16 Mar 1955: GOR No. 80 published.

Spring 1955: Design study proposals solicited from industry.

17 Aug 1956: System Development Directive No. 117L issued.

Oct 1956: Contract to develop and test 117L awarded to Lockheed Aircraft Corp.

Nov 1956: M.I.T. awarded R&D contract for the Guidance and Orbital Attitude Control Equipment.

Jul 1957: Joint ARDC-ARC WSPO established at AFBMD.

1 Nov 1957: Secretary Quarles authorized acceleration of development of WS117L at maximum rate consistent with good management.

23 Dec 1957: Preliminary Operation Concept published.

Feb 1958: ARPA assumed development responsibility for WS117L and 2X priority issued.

15 Mar 1958: Development Plan issued but not approved.

1 Jul 1958: Development Plan revised but not approved.

15 Sep 1958: New Development Plan issued - no approval to date.

6 Dec 1958: Anticipated date of 1st firing from Vandenberg AFB of THOR boosted WS-117L.

4. Problem Areas:

a. A deficit of $16.0 million exists between the amount of funds in FY 58 ARPA has agreed to provide for this program ($25.0 million) and the amount required ($41.0 million) for the photo and electronic satellite reconnaissance systems.

b. The Infra-red, ICBM attack alarm system cannot be accelerated even if the full amount of $231.0 million is made available. A separate Development Plan was prepared and submitted on 17 September 1958 to the ARPA. This program, in support of the BMEWS, would accelerate the operational availability of a satellite system to detect enemy ICBM's with infra-red sensors by a period of 2-3 years. It calls for an R&D program of nine (9) launchings from the Atlantic Missile Test Range of nine (9) 117L satellite vehicles equipped with IR sensors launched by ATLAS boosters from August 1959 to August 1960. This program is followed by three (3) launchings by an ATLAS booster from Vandenberg AFB from October through December 1960. The cost of this program in millions of dollars is as follows:

FY 58	FY 59	FY 60
45.0	55.3	23.9

It appears as though the ARPA has neither the desire nor the money to support the IR program on this accelerated basis.

c. Possible conflict with national policy of promoting the use of space for entirely peaceful purposes.

5. Status:

On schedule. It appears as though the 1st firing date of 6 December 1958 from Vandenberg AFB will be met.

6. Other Service Interest or Participation:

a. USN, USA, and the entire Intelligence "Family."

b. ARPA: Developmental authority and responsibility.

c. NASA: As possible vehicle combination for some scientific experiments.

7. Significant Characteristics:

a. Photo. Capability of detecting targets in Soviet and Soviet-Bloc territories, recording them on film, and electronically transmitting this data to read-out stations in the XI. The early version will resolve ground objects of 100 feet and locate them with an accuracy of one mile. Later version will resolve ground objects of 20 feet and locate them with an accuracy of 1/2 mile. A 6 inch focal length camera will accomplish the former and a 36 inch focal length camera will perform the latter.

b. Ferret:

Locate known and unknown electronic emissions from within Soviet and Soviet-Bloc combines in the band of 50 MC/S to 40,000 MC/S with a range accuracy of 50-60 miles.

c. Infra-red:

Instead of the 261 N.M. orbit of the previous two systems, this system proposes an orbit of 1000 N.M. Twenty vehicles on a random polar orbit at 1000 N.M. will provide 100% coverage of the U.S.S.R. to a latitude of 55°N almost 100% of the time. Almost 30 minutes of warning of a Soviet ICBM launching can be instantaneously provided to ground read-out stations at Thule, Fairbanks and Alaska. This system is intended to compliment the MIDAS system.